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THE EFFECT OF TRAINING FOREIGN LANGUAGE STUDENT TEACHERS IN
INTERACTION ANALYSIS.

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FOURTEEN FOREIGN LANGUAGE STUDENT TEACHERS WERE TAUGHT
THE FLANDERS SYSTEM OF INTERACTION ANALYSIS, ADDING A
BEHAVIORAL-SCIENCE DIMENSION TO THEIR CUSTOMARY STUDY OF NEW
METHODS OF FOREIGN LANGUAGE TEACHING. PRE- AND POST-TESTS
WERE ADMINISTERED AFTER 8 WEEKS, COVERING (1) PUPIL ATTITUDES
TOWARD THE FOREIGN LANGUAGE, FOREIGN LANGUAGE TEACHER, AND
FOREIGN LANGUAGE CLASS, (2) TEACHER REACTIONS TO CLASSROOM
SITUATIONS ALONG DIRECT-INDIRECT LINES, INCLUDING POSSIBLE
ATTITUDE CHANGES AFTER TRAINING, (3) ATTITUDES AND DEGREE OF
SATISFACTION OF STUDENT TEACHERS AND COOPERATING TEACHERS
TOWARD EACH OTHER. TAPES WERE MADE OF FOUR CLASSES, WHICH
YIELDED PRE- AND POST-FLANDERS GRAMMAR AND CONVERSATION
MATRICES. SIGNIFICANT FINDINGS WERE--(1) MORE POSITIVE
ATTITUDES TOWARD TEACHING BY STUDENT TEACHERS, (2) MORE
POSITIVE ATTITUDES BY PUPILS TOWARD SEVERAL ITEMS WHICH
APPEAR RELATED TO CLASSROOM BEHAVIORS OF STUDENT TEACHERS,
(3) MORE INDIRECT TEACHING PATTERNS USED BY STUDENT TEACHERS,
AND (4) MORE EXPRESSION OF PUPILS' OWN IDEAS IN FOREIGN
LANGUAGE CLASSES. THOUGH GRAMMAR CLASSES SEEMED MORE, AND
CONVERSATION CLASSES LESS RESTRICTIVE, SIMILAR BEHAVIOR
CHANGES WERE NOTED IN BOTH. STUDENT TEACHERS FELT THE
FLANDERS SYSTEM SHOULD BECOME A REQUIREMENT FOR FOREIGN
LANGUAGE TEACHERS. RESULTS APPEAR SIMILAR TO THOSE FOUND IN
EARLIER STUDIES OF THE USE OF INTERACTION ANALYSIS IN TEACHER
EDUCATION PROGRAMS. THIS PAPER WAS PRESENTED AT THE ANNUAL
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THE EFFECT OF TRAINING FOREIGN LANGUAGE STUDENT TEACHERS
IN INTERACTION ANALYSIS * **

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The Problem

"It is essential to relate knowledge of human behavior to the area of foreign language teaching."¹

"The overall quality of the nation's language program has taken a large step forward. What is now needed is emphasis on the personal aspect."²

"We can only agree with . . . a plea for the specific application of such research approaches as those taken by Ned A. Flanders, Donald M. Medley, Harold E. Mitzel, et al., to the foreign language teaching situation."³

So go the appeals of those who realize that recent findings in research from the field of educational psychology are being by-passed in the field of foreign language.

As a means of improving teaching, increasing attention is being devoted to the study of the actual classroom behavior of teachers. Category systems have been developed, not to evaluate teaching but to describe it, the assumption being that before you can evaluate the teaching act, you ought to know what the act consists of. Studies have been conducted to determine typical teaching patterns teachers use as they interact with pupils. Such studies have been done in elementary schools,⁴ in junior high mathematics and social studies classes,⁵ in classes of teachers rated as "above average" or "below average",⁶ and in the classes of secondary school student teachers⁷ and cooperating teachers⁸ of English, science, social studies, and

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mathematics.

Foreign language has been almost totally forgotten in these studies, perhaps because of the need not only for researchers to understand systems for analyzing classroom interaction but to understand the peculiarities of the foreign language class as well. Those in the foreign language field are primarily steeped in developing newer methods for its communication and are not necessarily formally involved in the behavioral sciences. No wonder the twain have not met.

An observational system which has been used in a considerable number of research studies since its inception in the early 1950's is the Flanders system of interaction analysis. This system has been referred to as "the most sophisticated technique for observing classroom climate."⁹ The Flanders categories were used first to determine normative patterns of classroom interaction between teachers and pupils and later in the in-service and pre-service training of teachers as a tool for self-analysis and self-improvement.

The Flanders system consists of ten categories, seven designate teacher behavior, two are for student behavior, and one is for silence or confusion. The teacher behaviors are divided into two types of influence, indirect and direct. The indirect categories are those which expand the freedom or opportunity of the students to participate. The categories of indirect teacher influence are: (1) accepts feelings of pupils, (2) praises or encourages, (3) accepts ideas of pupils, (4) asks questions. The categories of direct teacher influence are: (5) gives information, (6) gives directions, (7) criticizes or justifies authority. The two categories of student talk are: (8) student response-predictable, and (9) student response-unpredictable. The tenth category is for silence or confusion. These categories are summarized in Figure 1.

To obtain a complete descriptive picture of what behaviors are used during a lesson, a trained observer tallies every time a different category

(Figure 1)

CATEGORIES FOR INTERACTION ANALYSIS

Minnesota, 1959

T
E
A
C
H
E
R

T
A
L
K

STUDENT
TALK

- | | |
|-----------------------|--|
| INDIRECT
INFLUENCE | 1.* ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a non-threatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included. |
| DIRECT
INFLUENCE | 2.* PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "um hm?" or "go on" are included. |
| | 3.* ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to category five. |
| | 4.* ASK QUESTIONS: asking a question about content or procedure with the intent that a student answer. |
| | 5.* LECTURING: giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions. |
| | 6.* GIVING DIRECTIONS: directions, commands, or orders to which a student is expected to comply. |
| | 7.* CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference. |
| | 8.* STUDENT-TALK-RESPONSE: talk by students is response to teacher. Teacher initiates the contact or solicits student statement. |
| | 9.* STUDENT-TALK-INITIATION: talk by students which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category. |
| | 10.* SILENCE OR CONFUSION: pausing, short periods of silence and periods of confusion in which communication cannot be understood by the observer. |

*There is NO scale implied by these numbers. Each number is classificatory, it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on

is used and when the same category is repeated for a consecutive period of time, he records this category every three seconds. The tallies are entered into a ten by ten matrix, resulting in a graphic picture of the lesson. The matrix preserves the general time sequence of the interaction by illustrating which behaviors immediately preceded or followed others. By studying the matrix, teaching patterns can be discovered and analyzed. From the matrix, a teacher may find out many specific things about his teaching. A few of these are:

1. What percentage of the class time does the teacher talk?
2. What percentage of the class time do the pupils talk?
3. Does the teacher use more indirect or direct influence during a lesson?
4. Is the teacher more indirect or direct in the way he motivates and controls the class?
5. What kind of immediate feedback does the teacher give to pupils as they respond?
6. To what extent do pupils participate for extended periods of time?
7. What behaviors does the teacher use to elicit pupil response in the class?
8. To what extent are pupil responses which are called for by the teacher narrow, predictable ones and to what extent are pupils given the opportunity to bring in their own ideas?
9. What behaviors does the teacher use more extensively in communicating?

A logical time for implementing new ways of teaching a foreign language and for being experimental with one's teaching behavior is when one is still a novice. The student teaching experience, therefore, seems to be a psychologically fruitful time for introducing new awarenesses into one's teaching behavior. Previous studies have found that student teachers of the other

academic disciplines, when taught the Flanders system made significant changes in the teaching behaviors they used.¹⁰ These student teachers differed in their teaching patterns from other student teachers not receiving this training, the differences being in the direction of more positive patterns, more in keeping with the commonly accepted goals of education.

The present study was undertaken to reveal insight into two basic questions:

1. Does training in interaction analysis make a difference in:
 - a. The attitudes of the foreign language student teachers toward teaching?
 - b. The teaching patterns of the foreign language student teachers?
 - c. The attitudes toward foreign language of the pupils in the student teachers' classes?
 - d. The attitudes of the foreign language student teachers toward their cooperating teachers?
 - e. The attitudes of the cooperating teachers toward the foreign language student teachers?
2. Are the results obtained from training foreign language student teachers in the Flanders system similar to those obtained from training teachers in the other academic disciplines?

Procedures

Spring term of 1966 was the first semester that there was a sizeable number of foreign language majors at Temple University taking their second and final student teaching experience. In their professional education courses, student teachers in secondary education are required to take one of 10 possible courses concurrent with their student teaching. It was decided that the 14 foreign language student teachers should all be placed in the course in which they would learn the Flanders system. Two hours a week for

15 weeks they attended the lecture for this course together with student teachers from the other academic disciplines. In addition, two hours a week, while the other student teachers had a seminar, the foreign language student teachers met in a seminar of their own in which the concepts of interaction analysis were then related to the teaching of foreign language. The author of the present study was the seminar instructor, having had experience in both the teaching of foreign language and the teaching of the Flanders system.

In order to investigate the problem, a number of instruments were administered before and after training the foreign language student teachers in interaction analysis. All of the instruments were administered two weeks after the student teachers began to teach (which was the fourth week of student teaching) and again eight weeks later. Following are the measures which were used in the study.

Teaching Situation Reaction Test, Commonly referred to as the TSRT, this instrument was developed at Temple University by James K. Duncan and later refined by John B. Hough and has been found to have some potential for predicting teacher performance and to be resistant to faking. The TSRT assesses the teacher's reactions to classroom situations along the direct-indirect dichotomy and was administered to determine whether any changes in attitude occurred after the training. Other research has found that with the passage of time, student teachers and beginning teachers tend to develop less favorable attitudes toward teaching.

The Foreign Language Attitude Questionnaire or FLAQ is a questionnaire devised by the author of the present study to assess the attitudes of pupils toward learning a foreign language. There are three dimensions to the questionnaire:

1. How the student feels about the foreign language he is studying.
2. How the student feels about the foreign language teacher.
3. How the student feels while in the foreign language class.

There are 14 items on the questionnaire. The pupils are directed to check along a seven-point scale their responses to each item. The highest possible total score is 98, with a higher score indicating a more positive attitude. The Hoyt technique for estimating reliability by analysis of variance was used to determine the reliability of the attitude questionnaire. The reliability of each individual questionnaire was found to be .76, so for a given class or group, the corrected reliability using the Spearman-Brown formula is .93. Comparisons were made on the total questionnaire, on all three subscales, and on the individual items to determine whether any changes had occurred in the attitudes of the pupils of these student teachers during the eight week period.

The Student Teachers' Attitude Questionnaire (STAQ) and the Cooperating Teachers' Attitude Questionnaire (CTAQ) were devised by the author of the present study to assess the attitudes and the degree of satisfaction of student teachers and their cooperating teachers toward one another. These questionnaires consist of items which were analyzed from favorable and unfavorable comments made by student teachers and cooperating teachers about one another. The attitude questionnaires are made up of parallel items, so that the same questions the cooperating teachers answer on the CTAQ are rephrased to apply to the student teachers on the STAQ. Each questionnaire contains 11 items. Subjects are to check along a nine-point scale their reactions to each item. The highest possible score is 99, the higher the score, the more positive the attitude. The following were the reliabilities for these questionnaires as estimated with the Hoyt technique: STAQ .87; CTAQ .92. These questionnaires were administered to determine whether training in interaction analysis affected the attitudes of the student

teachers and the cooperating teachers toward one another.

The Flanders System of Interaction Analysis. The student teachers tape recorded four class periods, a grammar lesson and a conversation lesson which they taught at the beginning of the semester and then again after their training in the Flanders system. The tapes were tallied by reliable observers who knew French and Spanish and who were trained in the Flanders system. Inter and intra reliability were always .85 and above. The individual observations of the student teachers were then summed to form four group matrices: a pre-grammar and a pre-conversation matrix and a post-grammar and a post-conversation matrix. Comparisons were then made to determine whether any changes occurred in the teaching patterns of the foreign language student teachers in grammar and conversation lessons after training in the Flanders system.

Findings

A t-test for correlated means using the direct difference method was used to test the significance between the post test differences on the TSRT, the STAQ, the CTAQ, and the teaching behaviors examined on the grammar and the conversation matrices. A/t-test was used to test the significance of the differences on the FLAQ.

TSRT. The mean score on the pretest was 108, while on the posttest it was 99 (the lower the score, the better is considered the performance on the test). The t-test run on pre and post TSRT scores was statistically significant at the .01 level, the value of t being 3.24. This group of foreign language student teachers, therefore, became significantly more indirect in their attitudes toward teaching after the training in the Flanders system.

FLAQ. An examination of the scores concerning the attitudes toward foreign language held by the pupils in these classes indicates that over the eight

week period no statistically significant changes took place in the total score or in any of the three subscale scores. There was, however, a slight increase in the total score from a mean of 68.72 to 69.77, (the highest possible score being 98 and considered the most positive, while the lowest possible score is 14). Each of the subscale scores also became somewhat more favorable, with the greatest increase being in the attitudes toward the foreign language student teachers.

Statistically significant differences did occur in two of the individual items, however. In the second administration of the FIAQ, the pupils perceived that the student teachers (1) praised them significantly more and (2) minded less when they, the pupils, made mistakes. And, although this item did not achieve a statistically significant difference, the pupils indicated that they now liked reciting alone in the foreign language somewhat more. It appears that the student teachers were using behaviors which communicated less dissatisfaction with and more approval of the pupils; these behaviors, in turn, increased in a positive direction the attitudes toward the foreign language and toward the student teachers.

Although the attitudes of the pupils did not increase significantly, on the other hand THEY DID NOT BECOME LESS FAVORABLE. More research is needed to find out what happens to the attitudes of pupils in classes of foreign language student teachers who do not receive training in interaction analysis. It may be that the attitudes of these pupils become more negative.

A possible source of contamination operating here is that because of having studied foreign language from their regular classroom teacher for the first half of the academic year, the pupils no doubt had already formed a number of their reactions toward learning a foreign language. Although the items called for reactions to the foreign language as taught by the student teachers, it is still possible that the student teachers were not the sole determiners of the attitudes present among their pupils.

STAQ. After four weeks of working together, the mean attitude score of the student teachers toward their cooperating teachers was 71.38, while eight weeks later the mean score decreased to 68.23. It may be that the training in interaction analysis caused certain changes in the student teachers which, in turn, caused their attitudes to become less favorable toward their cooperating teachers. The difference was not statistically significant.

A comparison here is possible with data collected in a study conducted in the spring of 1965.¹¹ Four groups of student teachers from other academic areas responded to these questionnaires. One half of the student teachers and one half of the cooperating teachers were trained in the Flanders system. The student teachers and cooperating teachers were paired in the four possible combinations of training and no training in interaction analysis. The group with the most negative attitudes toward their cooperating teachers was that with student teachers trained in interaction analysis whose cooperating teachers did not have this training.

By inspection the mean score on the STAQ in the present study ranks in consistent order with those in the above-mentioned study in that the post mean attitude score of the foreign language student teachers, whose cooperating teachers were not trained in interaction analysis, was also much more negative than those of the other three combinations of cooperating teachers and student teachers. It appears as though training only the student teachers in interaction analysis causes some measure of frustration in the student teachers since they do not have a common frame of reference with which to communicate with their cooperating teachers.

CTAQ. Between the pre and post administration of the CTAQ there was no significant change in the attitudes of the cooperating teachers toward their student teachers. The first administration was given four weeks

after the student teachers had been working with the cooperating teachers. The mean attitude score of the first administration was 79.15 and of the second, 79.62. The attitudes of the cooperating teachers tended to remain stable.

The attitudes of the cooperating teachers in this study were much more positive toward their student teachers than were the attitudes of the student teachers toward these cooperating teachers. (The mean score on the post CTAQ was 79.62 compared to 68.23 on the post STAQ.) This finding is also consistent with that of the study just discussed. In the present study, when only the student teacher was trained in interaction analysis, the attitudes of the cooperating teachers did not change substantially, while the student teachers did reflect less favorable attitudes toward the cooperating teacher.

The Flanders System. A major concern of this study was whether or not the teaching behaviors of the foreign language student teachers would change in the actual classroom situation after training in interaction analysis. It may be that certain behaviors are more difficult to incorporate in the teaching of foreign language because of a number of special factors which are present. When the class is conducted in a foreign language, limitations may be placed on the behaviors the teacher can use aside from the actual content of the lessons by (1) the level of pupil comprehension of the foreign language, (2) the ability of the teacher to speak the foreign language, (3) and the ability the pupils have attained in conversing in the language. For example, it is more difficult for a teacher in beginning foreign language classes to produce a 3-3, which means extended use (6 seconds worth) of the students' ideas, for the students are not as a rule expressing their ideas in the foreign language. Also the teacher may have difficulty using a student's idea extensively because the students' understanding of the foreign language is so limited

that they might not necessarily understand six seconds of such conversation by the teacher. Yet research with other academic disciplines has related high usage of the 3-3 cell with positive pupil attitudes and high achievement so this is still a critical area to note as it does or does not appear in the foreign language class.

Certain types of lessons, when conducted primarily in a foreign language, may be more restricted as to the possible behaviors produced. It is for this reason that a grammar lesson was chosen as one of the two kinds of lessons to be tape recorded: to determine whether in certain types of teaching, which may be more restrictive, the foreign language student teachers would make any changes after receiving training in interaction analysis. The other type of lesson selected was a conversation lesson because the possibility of using a greater variety of behaviors might be more feasible.

Yet when the pre and post group matrices for the grammar lessons were compared with the pre and post group matrices for the conversation lessons, a similar pattern of changes occurred in the teaching of both types of lessons. These differences are summarized below, in each case a difference indicated as significant represents the .05 level or beyond. Whether or not the differences were significant, all of the changes in behavior listed below did occur in both types of lessons.

1. Student teachers in both grammar and conversation lessons used significantly:
 - a. More indirect behaviors in motivating and controlling their classes. (Revised i.d.)*
 - b. More extended indirect influence. (Extended Indirect Area)
 - c. More extended indirect behaviors in proportion to extended direct behaviors. (Extended I.D.)
 - d. More extended acceptance of pupils' ideas. (3-3 cell)

*The items in parentheses which follow each description of behavior represent the terminology used in the Flanders system to refer to these descriptions.

2. Student teachers in grammar lessons used significantly:
 - a. Fewer directions. (Column 6)
 - b. Fewer extended directions. (6-6 Cell)
 - c. More broad questions, which elicited original pupil responses, in proportion to narrow questions, which elicited predictable pupil responses.
(4-9 cell/4-8 cell)
3. Student teachers in conversation lessons used significantly:
 - a. More indirect behaviors in their overall interaction patterns. (I. D.)
 - b. More extended praise. (2-2 cell)
4. Although the differences were not statistically significant, in both lessons student teachers used:
 - a. More indirect behaviors immediately after their pupils participated. (8-9 I. D.)
 - b. Less extended direct influence. (Extended Direct Area)
 - c. More acceptance of pupils' feelings. (Column 1)
 - d. More acceptance of pupils' ideas. (Column 3)
 - e. Less criticism. (Column 7)
5. The pupils in the classes taught by the student teachers revealed certain changes. All those reported below were significant at the .05 level or beyond. The pupils in both types of lessons:
 - a. Initiated their own ideas more, immediately after the student teachers presented information or lectured.
(5-9 cell)
6. Pupils in conversation lessons:
 - a. Gave fewer narrow, predictable responses. (Column 8)
 - b. Presented more of their own ideas and initiated the conversation more. (Column 9)
 - c. Talked for greater lengths of time when they expressed their own ideas. (9-9 cell)

The items which were statistically significant in the grammar and conversation lessons are summarized in Tables 1 and 2.

In spite of whatever difficulties might be inherent in producing

TABLE 1

COMPARISON OF TEACHING BEHAVIORS OF FOREIGN LANGUAGE STUDENT TEACHERS BEFORE AND AFTER TRAINING IN INTERACTION ANALYSIS: GRAMMAR LESSONS (N=14)

Variable	Mean Difference	t	p
Revised I/D-ratio	.10	2.35	.025
Extended I/D-ratio	.16	2.48	.025
Extended Indirect Area	1.37	2.68	.01
4-9 Cell/4-8 Cell	.09	1.78	.05
Column 6	-2.82	-2.32	.025
6-6 Cell	-1.28	-1.78	.05
3-3 Cell	.39	2.53	.025
5-9 Cell	.75	2.44	.025

TABLE 2

COMPARISON OF TEACHING BEHAVIORS OF FOREIGN LANGUAGE STUDENT TEACHERS BEFORE AND AFTER TRAINING IN INTERACTION ANALYSIS: CONVERSATION LESSONS (N=12)

Variable	Mean Difference	t	p
I/D-ratio	.13	1.92	.05
Revised I/D-ratio	.16	2.73	.01
Extended I/D-ratio	.31	2.73	.01
Extended Indirect Area	1.96	1.89	.05
Column 8	-10.46	-3.20	.01
Column 9	12.86	3.73	.01
2-2 Cell	.44	2.09	.05
3-3 Cell	.44	2.09	.05
9-9 Cell	6.19	2.43	.025
5-9 Cell	1.15	2.05	.05

changes of behavior in a foreign language grammar lesson, these student teachers did change their interaction patterns. It is important to note that the changes which did occur in these two types of lessons appear to be in keeping with the goals of such lessons. For example, in a conversation lesson, an objective of the foreign language teacher is to get pupils to talk extensively, to express their own ideas, and to feel free enough to initiate these ideas even when the teacher does not specifically call for them. These objectives were achieved moreso in the post conversation lessons, as evidenced by the assessment of the classroom interaction.

Discussion. Some may ask of what value is the knowledge of interaction analysis to the foreign language teacher? After all, the newer methods are quite structured, often dictating precise behaviors and their exact sequences to the foreign language teacher. What right, if any, does the individual foreign language teacher have to deviate from the prescribed recommendations of those who have carefully thought through and developed pattern practices, drills, and conversations?

One serious problem encountered with the teaching of newer curricula is the retraining of teachers accustomed to teaching more traditionally. Although many teachers have received training in these newer approaches, a number of studies have indicated that teachers are not making the behavioral transitions necessary to teach these newer programs. Such studies have found teachers to be using the same behaviors they used in teaching more traditionally.

The foreign language teacher can benefit from the Flanders system by attaining an additional way of viewing his interaction with pupils. He can be much more aware of the exact nature of the teaching patterns recommended in various drills by using the Flanders categories as a descriptive frame of reference to make the behaviors operational. On the other hand,

if foreign language teachers find that they tend to restrict themselves to fewer behavior patterns than teachers in other disciplines, they might wish to experiment by using additional behaviors which would not interfere with specified drills, but would increase the range of the behaviors they use instead.

An example of this is instead of solely using the classic words of brief praise such as bueno or tres bien after pupils do something praiseworthy, the foreign language teacher may decide to vary these expressions and even expand them into longer statements of praise. Su pronunciacion de los "erres" es excelente y muy española tells the student that he has not only done something which meets with the teacher's approval but what it is he is being commended for. Such behaviors on the part of the teacher will act to increase the passive vocabulary of the pupils, as well as having positive affective value for them.

One goal in language learning is for learners to be able to emit specific responses, which have been shaped, in answer to certain questions, and then eventually to produce these responses at will when a variety of responses are possible. The Flanders system enables the foreign language teacher to focus in on this hoped for transition in pupil behavior and to get a graphic picture of whether such a goal is being achieved.

The Flanders system assesses classroom climate. Certainly the atmosphere is a crucial element in the foreign language classroom, which provides a learning situation in which numerous errors are made by all students. In a foreign language class, inhibition and fear of participation may be experienced even by students who never feel this way in any other class, unless the teacher is highly skillful and sensitive to his own teaching behaviors and the feelings of his students.

At the end of the training in the Flanders system, the foreign language student teachers completed a questionnaire which requested

their reactions to the training and to its value for foreign language teachers. All of the 14 subjects of the study responded positively. There were four items on the questionnaire. Item one asked the student teachers to circle the number which indicated their reactions to this statement:

Item 1. I believe the study of interaction analysis applies to foreign language teaching

1	2	3	4	5	6	7	8	9
not at all				somewhat			a great deal	

The mean score for the group was 7.8, indicating that the group felt the Flanders system has considerable application for the teaching of foreign language.

Question two requested that the student teachers check the extent they agreed or disagreed with the following statement:

Item 2. The study of interaction analysis should be made a requirement for foreign language teachers.

Six of the student teachers strongly agreed with the statement. The remaining eight all agreed with it. No one chose neutral, disagree, or strongly disagree as their reaction to item two.

Two open ended questions were asked. Below are the questions and excerpts from a few of the responses:

Item 3. Studying interaction analysis has made me realize. . . .

that I can plan the way I am going to behave in the classroom.

what is going on in the classroom and what is successful under specific conditions.

exactly what I am doing in front of a class both good and bad. More than that, it has made me more aware of how my students react to my behavior.

that controlling my behavior and the behavior of my students can be done.

what behaviors I use; what behaviors I don't use; what behaviors I should like to use and why.

Item 4. I believe the most important things the foreign language teacher can gain from knowing the Flanders system are. . .

an understanding of how to elicit student responses and original ideas, also an understanding of student feelings.

how to get students to contribute in class without fear.

how to develop and use behaviors which accept, encourage, and praise the student. This system makes one consciously aware of the interaction which takes place in the classroom.

the importance of having some tangible check system whereby he can stop and analyze some of his behaviors in class.

the need for more and varied encouragement and praise so as not to sound trite with merely bien!

the basics of teaching no matter what the subject—that is, what areas of the matrix are useful and appropriate and under what conditions.

how to react to student responses.

varying teaching techniques. The Flanders system provides the teacher with some idea as to how to do it.

Conclusions

A number of differences were found in the pre and post data collected in the present study. The study of interaction analysis seems to have encouraged these differences. Training the foreign language student teachers in the Flanders system appeared to be related to:

1. More positive attitudes toward teaching by the student teachers.
2. More positive attitudes by pupils toward several items which appear related to the classroom behaviors of the student teachers.
3. Less positive attitudes of the student teachers toward the cooperating teachers.
4. More indirect teaching patterns used by the student teachers.

5. More expression of the pupils' own ideas in the foreign language classes.

In answer to a primary question posed in this study, the results obtained from training foreign language student teachers in the Flanders system appear to be similar to those obtained from training teachers in the other academic disciplines: both their attitudes toward teaching and the behavior patterns the foreign language student teachers used became more positive and more indirect after training in the Flanders system.

A previous study involving other academic disciplines concluded that when both student teachers and cooperating teachers were trained in interaction analysis, reciprocally favorable attitudes resulted between them.¹¹ It is therefore recommended that a similar study be done in the field of foreign language in the hopes of improving these attitudes as well.

In general, teachers trained in interaction become more indirect, accept more pupil ideas, and criticize less than teachers not so trained. Flanders found that teachers whose pupils had high achievement and positive attitudes were more indirect, accepted more student ideas, and used less criticism than teachers of pupils with low achievement and negative attitudes. It would seem, therefore, that training in interaction analysis is helping to produce teachers with appropriate teaching skills and that these changes are also possible in the foreign language classroom.

A number of studies have indicated that at the end of practice teaching, the attitudes of student teachers were more negative and their teaching behaviors became more direct. That the attitudes of these foreign language student teachers and their pupils improved and that the teaching patterns of the student teachers became more positive are indeed

encouraging findings.

Some people have been wondering whether knowledge of interaction analysis has meaning and application for the field of foreign language. It appears from the results of this study that it does.

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